Amendments to the Claims:

1.-20. Canceled.

21. (Not Entered) A lithium based electrochemical cell system comprising:
a positive electrode, the positive electrode comprising lithium metal oxide; and
a negative electrode, the negative electrode comprising a lithium metal;
a electrolyte, the electrolyte selected from the group consisting of an electrolyte consisting of a lithium salt, a first aprotic solvent and a second aprotic solvent, an electrolyte consisting of a liquid gel and a lithium salt dissolved therein, and an electrolyte consisting of a solid polymer and a lithium salt dissolved therein;
the electrolyte further comprising a degassing agent.

22. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure $CH_2=R_1=CH_2$, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

23. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a compound having a formula selected from the group consisting of $CH\ R_1\ CH$, $CH_2=R_1$, and $CH\ R_1$, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

24. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of $R_2-C=R_1=CH2$, $R_2-C\ R_1\ CH$, $R_2-CH=R_1$ and $R_2-C\ R_1$, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons and wherein R_2 is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.

25. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a compound selected from the group consisting of 2,3 dimethyl-1,3 butadiene, 1,3 butadiene, 2,3 dimethyl-1,4 pentadiene, and 1,5 hexadiene.

26. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and vinyl ethylene carbonate.

27. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,4 pentadiene and vinyl pyridine.

28. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 1,5 hexadiene and piperazine.

29. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and styrene.

30. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and piperidine.

31. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of hexadiene and vinyl pyridine.

32. (Not Entered) The lithium based electrochemical cell system of claim 1, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and triphenyl phosphate.

33. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and vinyl pyridine.

34. (Not Entered) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of styrene carbonate and vinyl piperazine.

35. (Not Entered) A rechargeable lithium ion cell comprising:
a positive electrode, the positive electrode comprising lithium metal oxide; and
a negative electrode, the negative electrode comprising a crystalline carbon;
a electrolyte, the electrolyte comprising a lithium salt, a first aprotic solvent, a second aprotic solvent, and a degassing agent.

36. (Not Entered) The rechargeable lithium ion cell of claim 37, wherein the first aprotic solvent and second aprotic solvent are selected from the group consisting of ethylene carbonate, dimethyl carbonate, ethyl methyl carbonate, propylene carbonate, and diethyl carbonate.

37. (Not Entered) The rechargeable lithium ion cell of claim 37, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure $CH_2=R_1=CH_2$, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

38. (Not Entered) The rechargeable lithium ion cell of claim 37, wherein the degassing agent comprises a compound having a formula selected from the group consisting of CH R_1 CH, $CH_2=R_1$, and CH R_1, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

39. (Not Entered) The rechargeable lithium ion cell of claim 37, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of R_2-C=R_1=CH2, R_2-C R_1 CH, R_2-CH=R_1 and R_2-C R_1, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons and wherein R_2 is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.

40. (Not Entered) A rechargeable lithium ion cell comprising:

a positive electrode, the positive electrode comprising lithium metal oxide; and
a negative electrode, the negative electrode comprising a crystalline carbon;
a electrolyte, the electrolyte selected from the group consisting an electrolyte consisting of a liquid gel and a lithium salt dissolved therein, an electrolyte consisting of a solid polymer and a lithium salt dissolved therein, and an electrolyte consisting of a solid polymer blended with a lithium salt dissolved in a first aprotic solvent and a second aprotic solvent;
the electrolyte further comprising a degassing agent.

41. (Not Entered) The rechargeable lithium ion cell of claim 55, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure $CH_2=R_1=CH_2$, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

42. (Not Entered) The rechargeable lithium ion cell of claim 55, wherein the degassing agent comprises a compound having a formula selected from the group consisting of CH R_1 CH, $CH_2=R_1$, and CH R_1, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

43. (Not Entered) The rechargeable lithium ion cell of claim 55, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of R_2-C=R_1=CH2, R_2-C R_1 CH, R_2-CH=R_1 and R_2-C R_1 , wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons and wherein R_2 is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.

44. (New) The cell system of claim 70, wherein the first cell further comprises a positive electrode, the positive electrode comprising lithium metal oxide; and
a negative electrode, the negative electrode comprising a crystalline carbon;
a electrolyte.

45. (New) The cell system of claim 70, wherein the electrolyte of the second cell further comprises a lithium salt, and wherein the first aprotic solvent and the second aprotic solvent are selected from the group consisting of ethylene carbonate, dimethyl carbonate, ethyl methyl carbonate, propylene carbonate, and diethyl carbonate.

46. (New) The cell system of claim 70, wherein the third cell comprises:
a positive electrode, the positive electrode comprising lithium metal oxide; and
a negative electrode, the negative electrode comprising a lithium metal;
a electrolyte, the electrolyte selected from the group consisting of an electrolyte consisting of a lithium salt, a first aprotic solvent and a second aprotic solvent, an electrolyte consisting of a liquid gel and a lithium salt dissolved therein, and an electrolyte consisting of a solid polymer and a lithium salt dissolved therein;
the electrolyte further comprising a degassing agent.

47. (New) A lithium based electrochemical cell system comprising:
a positive electrode, the positive electrode comprising lithium metal oxide; and
a negative electrode, the negative electrode comprising a lithium metal;
a electrolyte, the electrolyte selected from the group consisting of an electrolyte consisting of a lithium salt, a first aprotic solvent and a second aprotic solvent, an electrolyte consisting of a liquid gel and a lithium salt dissolved therein, and an electrolyte consisting of a solid polymer and a lithium salt dissolved therein;
the electrolyte further comprising a degassing agent.

48. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure $CH_2=R_1=CH_2$, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

49. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a compound having a formula selected from the group consisting of CHR_1CH, $CH_2=R_1$, and CHR_1, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

50. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of $R_2-C=R_1=CH2$, R_2-CR_1CH, $R_2-CH=R_1$ and R_2-CR_1, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons and wherein R_2 is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.

51. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a compound selected from the group consisting of 2,3 dimethyl-1,3 butadiene, 1,3 butadiene, 2,3 dimethyl-1,4 pentadiene, and 1,5 hexadiene.

52. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and vinyl ethylene carbonate.

53. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,4 pentadiene and vinyl pyridine.

54. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of 1,5 hexadiene and piperazine.

55. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and styrene.

56. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and piperidine.

57. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of hexadiene and vinyl pyridine.

58. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and triphenyl phosphate.

59. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and vinyl pyridine.

60. (New) The lithium based electrochemical cell system of claim 47, wherein the degassing agent comprises a blend of styrene carbonate and vinyl piperazine.

61. (New) A rechargeable lithium ion cell comprising:
a positive electrode, the positive electrode comprising lithium metal oxide; and
a negative electrode, the negative electrode comprising a crystalline carbon;
a electrolyte, the electrolyte comprising a lithium salt, a first aprotic solvent, a second aprotic solvent, and a degassing agent.

62. (New) The rechargeable lithium ion cell of claim 61, wherein the first aprotic solvent and second aprotic solvent are selected from the group consisting of ethylene carbonate, dimethyl carbonate, ethyl methyl carbonate, propylene carbonate, and diethyl carbonate.

63. (New) The rechargeable lithium ion cell of claim 61, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure $CH_2=R_1=CH_2$, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

64. (New) The rechargeable lithium ion cell of claim 61, wherein the degassing agent comprises a compound having a formula selected from the group consisting of CHR_1CH, $CH_2=R_1$, and CHR_1, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

65. (New) The rechargeable lithium ion cell of claim 61, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of $R_2-C=R_1=CH2$, R_2-CR_1CH, $R_2-CH=R_1$ and R_2-CR_1, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons and wherein R_2 is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.

66. (New) A rechargeable lithium ion cell comprising:
a positive electrode, the positive electrode comprising lithium metal oxide; and
a negative electrode, the negative electrode comprising a crystalline carbon;

a electrolyte, the electrolyte selected from the group consisting an electrolyte consisting of a liquid gel and a lithium salt dissolved therein, an electrolyte consisting of a solid polymer and a lithium salt dissolved therein, and an electrolyte consisting of a solid polymer blended with a lithium salt dissolved in a first aprotic solvent and a second aprotic solvent;
the electrolyte further comprising a degassing agent.

67. (New) The rechargeable lithium ion cell of claim 66, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure $CH_2=R_1=CH_2$, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

68. (New) The rechargeable lithium ion cell of claim 66, wherein the degassing agent comprises a compound having a formula selected from the group consisting of CHR_1CH, $CH_2=R_1$, and CHR_1, wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons.

69. (New) The rechargeable lithium ion cell of claim 66, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of R_2-C=R_1=CH2, R_2-CR_1CH, R_2-CH=R_1 and R_2-CR_1 , wherein R_1 is an aliphatic carbon chain of 1 to 7 carbons and wherein R_2 is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.

70. (New) A lithium electrochemical cell system, comprising:
a first electromechanical cell including:
a first lithium metal oxide positive electrode;
a first negative electrode having a crystalline carbon; and
a first electrolyte selected from the group consisting an electrolyte consisting of a liquid gel and a lithium salt dissolved therein, an electrolyte consisting of a solid polymer and a lithium salt dissolved therein, and an electrolyte consisting of a solid polymer blended with a lithium salt dissolved in a first aprotic solvent and a second aprotic solvent;
the electrolyte further comprising a degassing agent,
a second electromechanical cell including:
a second lithium metal oxide positive electrode, and
a second negative electrode having a crystalline carbon; and
a second electrolyte having a first degassing agent, and a blend of at least two aprotic solvents; and
a third electrochemical cell.